

Patent claims

1. Method for executing a command signaled from a Media Gateway Controller (MGC) to a Media Gateway (MGW) (reference symbol 2 in Fig. 1 and 2; reference symbol 1 in Fig. 3 and 4) to change the coding of at least one load data connection section termination (termination B in Fig. 1) at the Media Gateway (MGW), where the Media Gateway (MGW) after arrival of the command only checks for the connectibility of the terminations (termination B, termination A in Fig. 1) of this context (termination B, termination A etc) with changed (2, 5/7/9) coding if it (MGW) establishes, as a result of one or more further signaled commands arriving at the Media Gateway (MGW) (5 or 7 or 9 in Fig. 1) that it (MGW) has available all current commands to be executed (2, 5) for changing the codings in terminations of this context.
2. Method in accordance with one of the previous claims, characterized in that, the Media Gateway (MGW) as well as checking the connectibility of the terminations, also waits before any activation of a transcoding that may be required between terminations for which the coding now differs, until it (MGW) as a result of one (5 or 7 or 9 in Fig. 1) or more further signaled commands arriving at the Media Gateway (MGW) establishes that it has available to it all commands for changing the codings of terminations of this context.
3. Method in accordance with one of the previous claims, characterized in that the Media gateway (MGW), after arrival of a command (2) for changing the coding of at least one termination

(termination B) checks whether the command (2) that has arrived is the first currently not yet processed command for changing the coding of a termination of the context, and, if it is, isolates or deactivates all terminations (termination A, termination B) of this context until the Media Gateway (MGW) establishes that it has received all current commands for changing the coding of a termination of this context.

4. Method in accordance with one of the previous claims, characterized in that the checking includes of the connectibility of terminations (termination A, termination B) to one another with if necessary changed coding to check whether the changed codings are the same, whereby, if they are the same, the terminations are connected without activation of a transcoding.

5. Method in accordance with one of the previous claims, characterized in that, if the checking of the connectibility of terminations (termination A, termination B) reveals that the changed codings are not the same, and the Media Gateway (MGW) can also not convert them into each other by activating a transcoding, it (MGW) sends an error message to a Media Gateway Controller (MGC).

6. Method in accordance with one of the previous claims, characterized in that the sequence of the signaling for the BICC procedures "Codec Modification" and "Codec Renegotiation" according to Q.1902 is utilized in order to adapt the procedure to the MGW other than in the way described in Q.1950 so that the MGW only performs the check for a necessary transcoding between the terminations in a context as well as any activation of transcoders

that may be required at a point at which, in the case of a joint modification of a number of terminations by the MGC, it has already received signaling relating to the modification of all terminations.

7. Method in accordance with one of the previous claims,
5 characterized in that, if the MGC uses the Q.1950 "Reserve Characteristics" procedure to cause the MGW to modify a termination, the MGW only checks and activates the transcoder if the MGC activates the modification of this termination by means of the Q. 1950 "Confirm Characteristics" procedure to the MGW.
- 10 8. Method in accordance with one of the previous claims, characterized in that, in the case in which the MGC uses the Q.1950 "Reserve Characteristics" procedure to cause the MGW to modify a termination, the MGW only checks and activates the transcoder if the
15 MGW has received from a media gateway at the other end of a load connection section with a termination in the same context a message to modify the load connection, especially the Q.2630 "Modify Bearer" procedure.
9. Method in accordance with one of the previous claims, characterized in that, if the MGC uses the Q.1950 "Reserve
20 Characteristics" procedure to cause the MGW to modify a termination, the MGW also checks and activates the transcoder if the MGW has

received from a media gateway at the other end of a load connection section with a termination in the same context a message to modify the load connection, especially the Q.2630 "Modify Bearer" procedure.

- 5 10. Method in accordance with one of the previous claims, characterized in that, if the MGC uses the Q.1950 "Reserve Characteristics" procedure to cause the MGW to modify a termination, the MGW also checks and activates the transcoder if the MGW has also received from the MGC, for all terminations in the same context,
10 commands for modification via the Q.1950 "Reserve Characteristics" procedure or the Q.1950 "Modify Bearer" procedure.

11. Method in accordance with one of the previous claims, characterized in that, if the MGC uses the Q.1950 "Modify Characteristics" procedure to cause the MGW to modify a termination,
15 the MGW only checks and activates the transcoder if the media gateway at the other end of the load connection section corresponding to the termination signals that the load connection is to be modified, especially by means of the Q.2630 "Modify Bearer" procedure.

- 20 12. Method in accordance with one of the previous claims, characterized in that, in the case in which the MGC uses the Q.1950 "Modify Characteristics" procedure to cause the MGW to modify a

termination, the MGW also checks and activates the transcoder if the MGW has also received from the MGW for all terminations in the same context commands for modification via the Q.1950 "Reserve Characteristics" procedure or the Q.1950 "Modify Characteristics" procedure.

13. Method in accordance with one of the previous claims, characterized in that, in the case in which the MGC is jointly modifying a number of terminations belonging to a load connection, where it uses the Q.1950 "Modify Characteristics" procedure for at least two terminations, the MGC first executes the Modify Characteristics" procedure for all these termination before sending for Q.1902.4 the messages "Modify to Selected Codec information" or "Modify Codec" to the media gateway at the other ends of the corresponding load connection section. (Fig. 4)

14. Method in accordance with one of the previous claims, characterized in that, if after signaling via the Q.1950 protocol by means of the "Reserve Characteristics" procedure or the Modify Characteristics" the coding of a specific termination to be changed in the MGW, all terminations associated with it in the same "context" are deactivated (H.248 "stream ") and the MGW does not direct any load data from and to these terminations, where just the first termination changed goes into the transmit and receive state and forwards load data from and to the terminations involved in the

same "context" and only after arrival of commands to change these inactive terminations does the MGW check whether it can connect the termination(s) together in its (their) new coding.

15. Method in accordance with one of the previous claims,
5 characterized in that the MGW does not immediately reestablish the connections after the checks specified in 1, but first, even if additionally using separate signaling, for example the lu FP initialization specified in 3GPP in TS 25.415 and 29.415, the
10 changeover the coding at these terminations would be instigated with the MGW at the other ends of the load connection sections to be connected again.

16. Method in accordance with one of the previous claims,
characterized in that the MGW does not immediately activate the relevant termination after receiving the command for modifying from
15 the MGC for load data, by setting it to transmit and receive load, but first, even if using subsequent separate signaling, for example the lu FP initialization specified in 3GPP in TS 25.415 and 29.415, the changeover of the coding is instigated with the MGW at the other
end of the load connection.

20 17. Method in accordance with one of the previous claims,
characterized in that the MGW restricts the period of time between the arrival of the first command for changing of a termination and the arrival of the command which initiates the checking, and, if the corresponding commands for all connected load connections have not

arrived within this period, the MGW establishes the original connection of the load connections again with the old coding.

18. Device for executing the method in accordance with one of the previous claims.

- 5 19. Device (MGW) especially in accordance with Claim 18, with inputs and/or outputs for terminations (termination A, termination B) of connection sections for load data,
With one input for commands signaled by a Media Gateway Controller (MGC) to the device (MGW) (reference symbol 2 in Fig. 1 and 2;
10 reference symbol 1 in Fig. 3 and 4) for changing the coding of at least one load data connection section termination (termination B in Fig. 1) at the device (MGW),
with a control for checking the connectibility of the terminations (termination B, termination A in Fig. 1) of this context
15 (termination B, termination A etc) with changed (2, 5/7/9) coding, said control being embodied such that it only makes this check if all commands to be currently executed (2, 5) for changing codings in terminations of this context are available at the device (MGW) as a result of one or more further signaled commands (5 or 7 or 9 in Fig.
20 1) arriving at the device (MGW).